

MONTHLY NOTICES

OF THE

ROYAL ASTRONOMICAL SOCIETY.

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No. 2

Captain W. DE W. ABNEY, C.B., R.E., D.C.L., F.R.S., President,
in the Chair.

George Cox Bompas, F.G.S., F.R.G.S., 121 Westbourne Terrace,
Hyde Park, W. ;

Bryan Cookson, Oakwood, Wylam, R.S.O., Northumberland ; and
Lieut. Basil Taylor, R.N., H.M.S. *Blake*, North American
Station,

were balloted for and duly elected Fellows of the Society.

The following candidates were proposed for election as Fellows
of the Society, the names of the proposers from personal know-
ledge being appended :—

Edwin Bare, Ruthven Villa, Hainault Road, Leytonstone (pro-
posed by James Glaisher) ;

Vincent Joseph Bouton, B.Sc., 9 Lansdowne Terrace, Hampton
Wick (proposed by Arthur Cottam) ;

Henri Deslandres, D.-ès-Sc., Astronome-adjoint à l'Observatoire
de Paris (proposed by Captain W. de W. Abney) ;

Comte A. de la Baume Pluvinel, 7 rue de la Baume, Paris (pro-
posed by Captain W. de W. Abney) ;

George Darley Lardner, Commissary-General, 6 Princes Road,
Wimbledon (proposed by R. A. Gregory) ;

C. W. D. Perrins, Davenham Bank, Malvern (proposed by the
Rev. F. J. Eld) ;

Charles A. Post, 21 Washington Square, New York, U.S.A.
(proposed by Harold Jacoby) ; and

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Charles Roberts, 6 Bramerton Street, King's Road, Chelsea, S.W.
(proposed by Adam Hilger).

Mr. J. E. Drower, Mr. W. B. Gibbs, and Mr. H. P. Hollis
were appointed Auditors of the Treasurer's accounts for the
year 1894.

One hundred and five presents were announced as having
been received since the last meeting, including, amongst others—

A series of sixteen memoirs from the *Comptes Rendus*, &c., by
M. Deslandres, presented by the Author, and copies on glass of
nine spectrum photographs of the solar prominences, &c. ; Déter-
mination des constantes pour la réduction des clichés pris à Hel-
singfors, pour la construction du carte du Ciel, par A. Donner,
presented by the Author ; Radiant Suns, by Agnes Giberne,
presented by the Author ; Three volumes, containing a series of
drawings of Sun-spots, presented by the Rev. F. Howlett ;
Publications of von Kuffner's Observatory, Vienna, vol. iv., pre-
sented by the Observatory ; Lund Observatory Zone Observations
+ 35° to + 40°, presented by the Observatory ; Scheiner's Treatise
on Astronomical Spectroscopy, translated, revised, and enlarged
by E. B. Frost, presented by Professor Frost ; Scheiner, Unter-
suchungen über den Lichtwechsel Algols, presented by Dr. L.
Becker.

*A Re-determination of the Epoch Correction and Mean Motion
for Hansen's Lunar Tables from Meridian Observations of
the Moon, 1750-1892.* E. J. Stone, M.A., F.R.S., Radcliffe
Observer.

In the present paper it is proposed to apply the views which
I hold of the physical bases of the measures of time adopted in
practical astronomical work to a re-determination of the epoch
constant and mean motion in Hansen's Lunar Tables.

The results of all the meridian observations of the Moon made
at Greenwich between 1750 and 1882, and those made at the
Radcliffe Observatory, Oxford, from 1880 to 1892, will be
included in the discussion.

The residuals give in column (3) of the following table have
been taken from Airy's determinations of the mean errors in
longitude of Damoiseau's Tables, *Memoirs*, vol. xxix., but they
have been corrected for those parts of the differences of the Green-
wich sidereal times which correspond to the beginning of the
"unit day," which have usually been acknowledged and allowed
for, in passing from the data adopted in Carlini's Tables to the
data adopted in Le Verrier's Tables ; and these corrections have
been carried into all the residuals given in column (3).

The residuals, 1847-1892, have been obtained from direct